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# BOTANICAL GAZETTE.

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**SOME WESTERN PLANTS.**—Western plants now and then turn up at the East, other than those which have been introduced by railroad, cattle-transportation, and with grass-seed. Mr. Hitchings, of Boston, a very sharp-eyed observer, has recently brought me, from the borders of a pond in Winchester near here, the three following plants, growing together:

*Echinocorus parvulus*, Engelm., a re-discovery, having been found near here by Thos. P. James, ten years ago.

*Scirpus supinus*, var., *Hullii*, Gray, thus far without the curious subradical flowers which were found by Mr. Morong at a neighboring locality.

*Fleocharis Engelmanni*, Steud., var. *detonsa*, Gray, enumerated in Patterson's Catalogue of Oquawka Plants, and found also by E. J. Hill, in Indiana. The form of the species with bristles as long as the nut was collected in Connecticut, at Wethersfield, by Charles Wright. The species is nearest *F. obtusa*.—A. GRAY.

**NELUMBium LUTEUM.**—Mr. J. K. Lowrie of Warriorsmark, Penn., sends us the following extract from a letter from Prof. Thos. C. Porter in which was described a recent botanical jaunt into New Jersey:

"Some weeks ago, leaves and flowers of *Nelumbium luteum* reached Dr. Trail Green from a lake in Sussex Co., N. J., and as neither of us had ever seen this giant lily in its native haunts, we resolved to go in search of it. Last Monday (Sept. 2) at 7 A. M., we started on the Morris and Essex R. R. and were in Newton, the county town of Sussex, by 9 A. M. Thence by carriage over hills we travelled six miles westward to a beautiful little lake, called Smartswood Pond, lying in the valley of the Paulin's Killcreek, about five miles east of the Blue Ridge. Its length is about three miles and its greatest width one; but its outline is irregular. The day was warm, but tempered by a fine breeze. No time was lost in hiring a boat and a man to row it. Off we pushed and directed our course to the largest of the three patches of *Nelumbo* found in the lake. It occupies a sheltered, curving bay on the north, and is perhaps a dozen acres in extent, and is discernible to the practiced eye afar off, because many of the big, peltate leaves, as large and round as young Norval's father's shield, and elevated on stout petioles about two and a half feet above the surface of the water, and amongst them, here and there, appeared peduncles as long and stout bearing the curious top-shaped receptacles with their embedded seeds nearly ripe. These tossed by the breeze presented a novel and charming spectacle, as we drew near and glided through them. It brought to mind Longfellow's description of the lakes of the Atchafalaya when traversed by Evangeline:

—"resplendent in beauty the LOTUS

Lifted her golden crown above the heads of the boatmen,"

which from my observation I suspect to be a practical exaggeration. Other leaves, of all sizes, float, and the drops of water dashed upon them by the dip of the oar, or the inflowing waves, rolled and shifted with a silvery luster like drops of quicksilver. The same repellant power you may have noticed in those of another plant, the golden club, *Orontium aquaticum*, which is not strictly a coast plant, since it is not uncommon in swamps as far west as the summit of the Alleghanies.

Open spaces amongst the *Nelumbium* were covered with the floating leaves of *Nymphaea odorata*, and an occasional flower of *Nuphar advena* and of *Brasenia peltata* in fruit. Along the shore near by, stood up ranks of *Pontederia cordata* with its spikes of lovely blue. Scanning narrowly the leaf-carpet on the water, as we slowly passed across, two plants, new to New-Jersey and not known to grow so far to the south east, revealed themselves, peeping just far enough above the water to expand their flower buds into bloom, *Nasturtium lacustre* and *Bidens Beckii*. I need hardly tell you that these treasures were booked. Nearly the whole coast line is rocky and abrupt. Only at one point is there a low marsh of considerable extent, overflowed at times, and covered with bushes and tussocks of grasses and carices, with black mud between. Not a trace of *Sphagnum* was discovered. Here grew *Ranunculus multifidus*, *Mikania scandens*, *Nesaea verticillata*, *Rumex Britannicus* and *Carex comosa*. Around the shelving margin of a rocky promontory, where an abundance of *Scirpus validus* lined the water's edge, we struck upon dense masses of *Eleocharis quadrangulata*, its square culms, rising from the shallows two feet above the surface, tipped with yellow spikes, suggesting an ancient army with its forest of spears. This was an excellent find. There too were gathered *Cladium mariscoides* and *Eriocaulon septangulare*. Two *Potamogetons* are very plentiful and beautiful to look down upon as they flourish in the pure, clear water, *Potamogeton Robbinsii*, fern like in appearance, and *P. amplifolius* with its broad, curled leaves. No sign of flower or fruit could be found on either. Other plants noted by us are *Hieracium Canadense*, *Taxus baccata*, var. *Canadensis*, *Saururus cernuus* and *Peltandra Virginica*. Of course the few brief hours of one summer day, and the hurried exploration of a few spots could not assure us that we had seen all that was worth seeing in, upon and around the charming Smartwood Lake. About the middle of the afternoon we turned our faces towards home and reached Easton at 7 P. M., well satisfied with our floral gains, with the enjoyment of travel and scenery and glad to have discovered another place worth visiting for plants or pleasure within easy reach."

**FERNS IN SOUTH FLORIDA.**—As in colder so in this warmer climate ferns luxuriate best in moist, shady places, but instead of the secluded nooks and sloping banks of musical rivulets we meet them generally in low rich hummocks of dense woody growth, and where if water is seen, appears in still, placid ponds or quiet, slow, snail-like moving streams. With the exception of *Aneimia adiantifolia*, Swz., *Pteris longifolia*, L., and *Ophioglossum bulbosum*, Michx., and *O. nudicaule*, all others attain the greatest perfection in these vegetable jungles.

*Acrostichum aureum*, L., the tallest of Southern ferns is invariably associated with brackish water. It is of common occurrence on the borders of marshes, bayous, creeks and rivers to the head of tide water. Although frequent along the mainland from Tampa and Biscayne bays south, is rarely seen on the keys. To a passing observation there seemed little or no disposition to sport or variation. It is quite difficult to dry, parting with its moisture reluctantly and readily imbibing again upon exposure to a humid atmosphere, a character possibly due to a deposition of chlorides in its cellular structure like other saline plants. Sometimes on boggy flats subject to daily inundations of the tide, there appears a series of low hillocks closely grouped, on each of which grow about 3-12 stalks of 6-8 fronds each. The loose soil of the interspaces having been washed out by the recessions of the tide. These hillocks are a mass of rhizomes of this fern which vary in size from one or two to six inches in length and two inches in width, with numerous lateral spongy roots a foot in length with the thickness of a goose-quill. There appears in these rhizomes one or several buds of an adventitious character, which develop into lateral stalks whose rhizomes ultimately separate from the parent one.

*Polypodium Plumula*, H. B. K. First detected by Dr. Leavenworth at Tampa, more recently by Miss Dickens at New Smerna, and now at Manatee. In this locality it is

restricted to a small area of high banks of a stream in a hummock draining a series of ponds. The soil is mostly clay intermixed with a small per cent. of sand and vegetable matter. On the sides of the high banks and near the water's edge, apparently in pure clay and rocks, the fronds are narrower, more rigid and erect while upon the banks and a little distance from the water, they are wider, more flaccid and generally reclining. All fronds appeared fertile and measured 2-4 inches in width and  $\frac{1}{2}$ -3 feet in length. In drying a novel character was developed in the flexible nature of the stipe suddenly curving in removing pressure, as though there was an inequality of tension of the elastic tissue in the cellular structure.

*Polypodium incanum*, Swz. Common and general, but rarely seen on other than the live oak. This fern shows a sensitive character in the abstraction of moisture in curling of the fronds and which instantly unfurled in a heavy dew or rain.

*Polypodium Phyllitidis*, L., is confined to low, humid and densely shaded hummocks. It was observed in several localities in Dade and sparingly in Manatee counties. It is a handsome fern 2-3 feet in height. The stalks occur sporadically, each sending up 6-12 rigidly erect fronds of a yellowish green color due to their translucent character and which is in part or wholly lost in drying. Very commonly the stalks are lodged in the decaying trunks of prostrate trees or old stumps near the ground, sometimes on the ground where the soil chiefly consists of decomposing woody or vegetable matter.

*Polypodium aureum*, L., is common and general on the main-land but rare on the Keys. It is always associated with the Cabbage Palmetto, growing from its stem, usually above reach and just beneath the spreading palm leaves which contribute constant shade and moisture. The novel lattice work of remaining dead petioles covering the trunk of this tree, offers a favorable and secure lodgement for the large creeping root-stalks of this fern. The glaucous fronds appear pendent, spreading or erect according to their length, which varies from  $\frac{1}{2}$ -3 feet. The fruit dots occur in single rows in the smaller and double in the larger fronds, but very commonly there appear breaks in the lines of fruit dots where the sporangia failed to develop.

*Vittaria lineata*, Swartz. A frequent companion of the preceding and like it restricted to the same tree. The pendent linear fronds appear in large tufts, lodged anywhere on the trunks. The fronds are commonly 1-2 feet long, but occasionally attain a length of 3 feet.

*Pteris longifolia*, L., inhabits the rocky ledges in the open pine barrens at Miami and is firmly rooted in the crevices of the rocks. The fronds, a few to many in a tuft, are usually erect,  $1\frac{1}{2}$ -2 feet high and of narrower pinnae than the same in cultivation. It seemed rather limited in its range and was not noticed elsewhere.

*Pteris aquilina*, L., is extremely common, appearing alike in pine barrens and fertile hummocks, but in the former is more dwarfed, 1-2 feet high; while in the latter, growing in rich vegetable mould, often attains a height of 5-6 feet with a black glossy stipe suitably large for a light walking cane.

*Blechnum serrulatum*, Michx., is not uncommon south of 28 N. Lat., and quite abundant where it grows. It inhabits boggy grounds along bayous, rich hummocks or adjacent pine lands, and appears in patches with the stalks of several fronds often regularly  $\frac{1}{2}$ -1 foot apart. These stalks have a simple or forking underground root-stem,  $\frac{1}{2}$  inch in diameter and  $\frac{1}{2}$ -1 foot long, which give origin to one or several new stalks annually, and apparently is the chief mode of propagation. The sterile and fertile fronds are equally common, but the former are wider and taller. The prevailing dimensions of the fronds are 2-3 feet in height, 3-5 inches in width, but in drier soil appears more dwarfed, while in very fertile and damp soil I have met the sterile fronds, exceptionally, 5 feet high and 1 foot wide.

*Woodwardia Virginica*, Smith, is not uncommon in newly broken hummock grounds. It seems the same in general character as in the Northern States.

*Woodwardia angustifolia*, Smith, seems rare, and was observed sparingly at Manatee. The fertile fronds were not seen.

*Asplenium dentatum* L., was detected in a rocky hummock at Miami. Like the other small species of the genus it grows out of the crevices of lime rocks, and sometimes by the close grouping of the little tufts, covers the entire face of shaded rocks but instead of being found upon the sides of rocky ledges like the northern species, it is restricted to rocky sides of depressions or rock holes, lower than the surrounding surface. These depressions, or rock holes, are common in this part of the State, and furnish constant shade and moisture and suitable protection against the hot rays of the sun. It is circumscribed in its range and was seen in this locality only.

*Asplenium ebenum*, Aiton, so common north, is rare in this latitude. It was seen sparingly in rocky places of hummocks in the counties of Levy and Manatee, but not further south.

*Asplenium serratum*, L. A handsome fern and worthy of cultivation. It was detected in a dense hummock near Miami, growing with *Polypodium Phyllitidis*, L., and like it the stalks of 6-20 fronds each appearing sporadically, but the fronds were dark green, flaccid and reclining so that the distant ends rested upon the ground. The stalks were not numerous and grew in rich decomposing vegetable matter filling the interspaces of broken rocks. The hepatics, mosses, other ferns, tree orchids and air plants appeared exceedingly abundant and luxuriant in this humid jungle of vegetable growth. The wild character, the difficulty of penetration, and the molesting mosquitos deterred me from making thorough search through the entire hummock. The fern was not seen elsewhere.

*Aspidium Thelypteris*, Swz. Quite common in marshy places of pine barren ponds and hummocks.

*Aspidium patens*, Swz. Very common and general; sterile and fertile fronds equally abundant.

*Aspidium unitum*, R. Br., var. *glabrum*, Mettenius, occurred in boggy places along the upper Miami river, and similar localities at Manatee, but not in great abundance.

*Aspidium cristatum*, Swz., var. *Floridanum*, (H. K.) appeared in great abundance in low wet places in the Gulf hummock in Levy county, also in a similar hummock near Manatee. The latter locality likely marks its southern range, for south, the northern plants invariably associated with it disappeared, such as *Quercus rubra*, *Carya tomentosa*, *Acer rubra*, *Ostrya*, *Carpinus*, *Ulmus Americana*, and many common northern mosses. The sterile fronds were smaller than the fertile.

*Nephrolepis exaltata*, Schott. Just where the last seems to terminate in its southern range this fern makes its appearance and seeks similar retreats, in low, rich hummocks covered with dense woody growth. The fronds are narrow and from 2-6 feet long. The stalks appear in rather large patches, growing in decomposing vegetable matter or soil composed principally of the same. Exceptionally it grows on the trunks of the Cabbage Palmetto. Generally the long fronds are old and imperfect having dropped their terminal pinnæ. The shorter fronds are erect, but the longer are reclining and sometimes pendent when on the trees. In drying there is frequently a disposition of the pinnæ to separate from the stipe. It appeared rather common in Dade county, but more sparingly in Manatee.

*Anemia adiantifolia*, Swz. A handsome fern and apparently restricted in its range. It grows on the low rocky surface or the shaded sides of rocky ledges, always in the open pine barrens. I have not seen it away from the Miami country. In company with *Pteris longifolia*, L., and like it is firmly lodged in the crevices of the rocks.

The sterile fronds are common perhaps the entire year, but the fertile make their appearance only after midsummer.

*Osmunda* is well represented by the three northern species. I don't know that they differ in characters or habits from the same further north, except that they fruit very sparingly and imperfectly. The sterile fronds are always abundant and luxuriant, December last, when all vegetation here had stopped growing, I observed a number of fronds of *O. cinnamomea*, L., with the lower pinnae fertile and the upper sterile. The following spring examined a number of stalks, but found all sterile except one or two, in which the upper pinnae were disposed to become fertile.

*Botrychium ternatum*, Swz., var. *obliquum*, Milde., is rare in this latitude. Saw a few stalks of it in the Gulf hummock.

*Ophioglossum bulbosum*, Michx., was detected in March growing in old fields of a hummock at Manatee. Stem 2-3 inches high with the part below the leaf imbedded in the damp, compact, sandy soil. There appeared from 1-3 fronds to each bulb; one in which sporangia had not yet developed, the second with matured fruit, and when a third was present it generally appeared decaying. I frequented the same locality a month later, but failed to detect even a trace of it, so that its fruiting period is likely of short duration. Several years since I saw the same in fruit at Palatke in the latter part of February.

*Ophioglossum nudicaule*, L., was seen in good fruiting state and rather plentiful in the month of November. It grew in damp compact sandy soil on the borders of pine barren ponds in Levy county. It was 1-2 inches high, and like the preceding sends up 1-3 stems to each thick root, with the parts of the stems below the leaves imbedded in the soil. It is apparently probable that the thick root in this and the bulb in the preceding are perennial. Likely both species are not uncommon, but are readily overlooked on account of their small size and growing with other small plants.—DR. A. P. GABER.

HOW SHALL WE PRONOUNCE BOTANICAL NAMES?—In view of the fact that the pronunciation of Latin and Greek is undergoing certain well known changes, in accordance with the results of recent investigations, a question of a good deal of importance to botanists who are teachers in colleges where they are obliged to deliver lectures, is that which deals with the pronunciation of botanical names. I need not say anything as to the advisability or inadvisability of our classical teachers adopting the new or "phonetic" pronunciation; that is a matter for others to discuss and quarrel over; I may be permitted, however, to say that I have no doubt whatever that in a few years all our students will be pronouncing Latin and Greek in accordance with this method. Taking this for granted, what shall we do with our botanical names? Shall we harden every *c*, *g*, and *qu*? Shall every long *a* be *ah*; every long *e* be *a*; every long *i* be *e*; every long *u* be *oo*? For hundreds of names there will be no difficulty, and the change will be scarcely noticeable, but in a great many other cases the new pronunciation will be startlingly different from the old. Witness the following examples: *Aquilegia* (Ah-kil-age-ah, pronounced with *g* hard), *Geranium* (Ga-rah-ne-um, with *g* hard again), *Acer* (Ah-ker), *Circæa* (Kir-ka-ah), *Cephalanthus* (Keph.), *Vaccinium* (Vak-kin.), *Rosaceæ* (Ro-sah-ka-a), *Ericaceæ* (Er-i-ka-ka-a), *Cyperaceæ* (Kip-er-ah-ka-a). I can not exactly represent the sounds without marked letters, and so have been obliged to occasionally use a consonant in a wrong syllable in order to indicate the vowel sound. At first these names thus pronounced, repel one from the new pronunciation, but after a little, when the ear has become accustomed to the new sounds, I must confess to liking them. There are some points connected with names derived in a barbaric way from the names of persons and places, of which I will have something to say hereafter.—C. E. BESSEY, Iowa Agricultural College.